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NOTES ON THE PIRO LANGUAGE

By JOHN P. HARRINGTON

THE Piro Indians are and have been since known to history the most southerly of the sedentary Pueblo tribes. They were the first Pueblo people encountered by the early Spanish explorers when they journeyed up the Rio Grande. Indeed archeology seems to indicate that the southern limit of the architecture typical of the Pueblo area is coincident with the southern extent of the country occupied by the Piro when first discovered by the whites in the sixteenth century.¹

This former Piro homeland lay in what is now the central part of New Mexico. In more than twenty villages, these Indians held the valley of the Rio Grande from the vicinity of the present La Joya to that of the present San Marcial, a distance of more than forty miles, and also a great arid area east of the river in the region which is known because of its alkali lakes as Las Salinas. As early Piro villages whose names have become widely known may be mentioned Senecú, Socorro, and Gran Quivira.

The neighbors of the Piro on the north were the ancestors of the present Sandia and Isleta Indians. This tribe, and more especially its language, are sometimes designated by a name, obscure in origin, which is variously spelled Tigua, Tiwa, but pronounced Tiwa. The application of the name Tiwa was extended at an early date to the Taos and Picuris Indians of northern New Mexico, who speak a slightly variant form of the language of Sandia and Isleta.² These northern neighbors were no doubt a people very similar in

¹ Bandelier, Final Report, *Papers of the Archaeological Institute of America*, Am. Ser., iv, Cambridge, 1892, pt. II, p. 252.

² Alonso Benavides is the first writer who observes that the Indians of Taos and Picuris are closely related linguistically to the Tiwa. In his *Memorial* (Madrid, 1630, p. 30) he notes concerning the Picuris: "And although these Indians are of Tiosas [i. e., Tiwa] tribe, since they are so widely separated from them, they are entirely independent of them." Of the Taos he says, "of the same tribe as the preceding, but the language differs somewhat."

every way to the Piro themselves. On the west, south, and east, and to some extent between the Piro villages, roved hostile Apache. More remote southern and eastern neighbors of the Piro were the semi-sedentary Jumanos, Mansos, and Sumas, of undetermined affinities.

At the time of the great Pueblo rebellion the Piro were already greatly decreased in number, probably largely as a result of increasingly violent inroads of the Apache. They accompanied the retreating governor of New Mexico, Otermin, as far south as El Paso del Norte. At a spot seven miles below the present city of El Paso, on the southwestern bank of the Rio Grande, a new Piro village of Senecú was established, and a second Socorro was founded seven miles farther down the river on the opposite bank. At and about these two places are still to be found at the present day forty or more individuals who call themselves Piro and continue the governmental organization of the Piro tribe, although they have adopted the language and culture of the Mexicans.

The two Piro villages near El Paso were established in 1680. In the following year a large number of Indians from Isleta pueblo were settled on the bank of the Rio Grande two miles above Socorro, and their village became known as Isleta or Isleta del Sur. These southern Isleta are at present somewhat less thoroughly Mexicanized than are the descendants of the Piro.

Piro history suggests that we have to deal with a tribe distinct from all others. We must therefore not be surprised to discover, in linguistic groupings which are based to a considerable extent on other than linguistic data, that Piro is considered a distinct language. It is interesting to examine the history of the classification of Piro.

Gregg writes, 1844: "In ancient times the several pueblos formed four distinct nations, called the Piro, Tegua, Queres, and Tagnos or Tanos, speaking as many different dialects or languages."¹ Here the Tanos (Tagnos) are separated from the Tewa (Tegua), although they spoke the same language, and the Keres (Queres) are introduced among tribes speaking languages of the Tanoan family.

Lane, 1854, groups together as belonging to a single linguistic

¹ Gregg, *Commerce of the Prairies*, Philad

1844, vol. I, p. 269.

stock the idioms of Taos, Vicuris (i. e., Picuris), Zesuqua (i. e., Tesuque), Sandia, Ystete (i. e., Isleta), and of "two pueblos near El Paso, Texas." This family he terms E-nagh-magh.¹ The tongues which he enumerates are all of the stock which has since Powell been known as the Tanoan family. The two pueblos near El Paso are probably Senecú and Isleta del Sur. They are however identified by Keane with "Lentis" and "Socorro."²

Pimentel, 1862-65, classifies the Pueblo languages as follows : "I. El Keres, Queres, Xeres, Quera dividido en tres dialectos Kiwomi ó Kioame, Cochitemi ó Quime, Acoma ó Acuco. II. El Tesuque ó Tegua, Tehua, Tigua, Tiguex. III. El Taos, Tahos, Thaos ó Piro, Pira, Tom-pira hablado por los Taos, Piros, Sumas, Pecuries ó Picoris. IV. El Jemez, Genez, Xemez ó Tano, Tagno, Tahano correspondiente á los Jemez, Tanos y Pecos. V. El Zuñi, Zoñi ó Cibola."³ Pimentel's groups II, III and IV include the languages of the Tanoan family. These three groups are however not recognized as resembling one another more closely than they do I, the Keres stock, and V, the Zuñian stock. In group II the Tewa and Tiwa are confused and classed together. Group III is very interesting, for it connects the Taos-Picuris, Piro, and Suma languages. In group IV the Tano, identical with the Tewa, is incorrectly grouped with the Jemez-Pecos language.

Powell, 1880, distinguishes Zuñian, Keresan, and Tanoan⁴ speech and gives the names to these three linguistic stocks. The divisions of the Tanoan stock are grouped by him thus : "1, Taño (Isleta, Isleta near El Paso, Sandia). 2, Taos (Taos, Picuni). 3, Jemes (Jemes). 4, Tewa or Tehua (San Ildefonso, San Juan, Pojoaque, Nambe, Tesuque, Santa Clara, and one Moki Pueblo). 5, Piro."⁵ Powell makes a very noticeable mistake in separating the Taos-Picuris from the Isleta-Sandia language and in calling the latter "Taño."

¹ Lane, 1854, in Schoolcraft, *Indian Tribes*, Philadelphia, 1855, vol. v, p. 689.

² See Powell, *Indian Linguistic Families of America North of Mexico*, Washington, 1891, p. 121.

³ Pimentel, *Lenguas Indígenas de México*, Mexico, 1862-65, p. 92.

⁴ Powell incorrectly writes Taño, Tañoan. The name in Mexican is Tano; in Tewa, Thánu. I follow Hodge in omitting the tilde from the word.

⁵ Powell in *American Naturalist*, Aug., 1880.

Bancroft, 1883, in his discussion of the Pueblo languages does not mention Piro; but he says: "In Taos, Picoris, Zandia, and Isleta, there is the Picoris language."¹ In chapter VII however he speaks of the "Hualahuise, Julime, Piro, Suma, and Chinarra" as north Mexican languages and reprints a Piro version of the Lord's Prayer.²

Bandelier, 1892, says of the Tiwa and Piro: "The language spoken by these two tribes is related to the idioms of the Tehuas, consequently also of the Tanos, Taos, Picuris, and Jemez. The Tigua language is virtually the same as that spoken at Taos and Picuris, the difference not being greater than between the dialects of southern Germany and those of some of the northern cantons of Switzerland . . . The Piros as far as I know have no kindred in the northern parts of the Southwest; except in as far as their idiom is shown to be related to those of the tribes specified above . . . Although the Piros and Tiguas were not able to understand each other's speech, they were near neighbors on the Rio Grande."³

Hodge writes, 1896: "The Pueblo tribes of New Mexico and Arizona embody four linguistic stocks—Tanoan, Keresan, Zuñian, and Shoshonean. The Tanoan stock is, or rather was, composed of five dialectal divisions—Tano, Tewa, Tiwa, Jemez, and Piro. . . . The Tiwa, called by the Spaniards Tigua, live in the pueblos of Taos, Picuris, Sandia and Isleta. . . . The Piros, now almost completely Mexicanized, are found, intermixed with some Tiwa, at the villages of Senecú and Isleta del Sur, below El Paso on the Rio Grande in Texas and Chihuahua."⁴

The Tano should be omitted, being included in the Tewa.

Concerning the Piro there seems to be a difference of opinion. Lane, Pimentel, Powell, Bandelier, and Hodge agree in grouping Piro with the Tanoan languages. They differ when a closer or more remote connection with certain languages within the Tanoan family is attempted. Pimentel classes the Piro with the Taos, Pi-

¹ Bancroft, *Native Races*, San Francisco, 1883, vol. III, p. 681.

² Ibid., p. 714. The Lord's Prayer is reprinted from the *Colección Polidiómica que contiene la Oración Dominical*, Mexico, 1860, p. 36, and is reproduced in the introduction to the Bartlett vocabulary of Piro in the last number of this journal, p. 429.

³ Bandelier, *Final Report*, Cambridge, 1892, pt. II, pp. 218 and 219.

⁴ Hodge, *Pueblo Indian Clans*, *American Anthropologist*, Oct., 1896, p. 345.

curis, and Suma. Powell, Bandelier, and Hodge consider Piro to be a language or division of the Tanoan family distinct from all others.

From what sources are these classifications derived, we may rightly ask? What sources are available for a study of the Piro language? The sources of our knowledge of the language itself are four in number.

1. A few place names. The orthography is Spanish. Those recorded by Bandelier¹ are: Abo (= Abbo), Atri-puy, Genobey (= Xenopué?), Pataotrey, (= Patasce?), Pil-abó (= Pil-o Pué), Qual-a-cú, Quelotetrey (= Cuéloce?), Tabirá (= Gran Quivira), Ten-abó, Tey-pam-á, Trenaquel, Zen-ecú (= Senecú = Tzen-o-cué).

2. A Piro version of the Lord's Prayer. The orthography is Spanish. The collector is not known. It was first printed in the *Colección Polidiómica Mexicana que contiene la Oración Dominical*, Mexico, 1860, p. 36. It is reprinted with twelve mistakes by Bancroft² and correctly in the *American Anthropologist*, July–Sept., 1909, p. 429.

3. A brief vocabulary recorded by Mr John Russell Bartlett in 1850, preserved in the archives of the Bureau of American Ethnology. It is published, together with a sketch of Piro history by Mr F. W. Hodge, and some notes on the Piro vocabulary by Bartlett, in the *American Anthropologist*, Oct., 1909, p. 426.

4. A brief vocabulary obtained by Mr James Mooney in 1897. This is also in possession of the Bureau of American Ethnology and has not yet been published.

This material, wretched in quality as it is meager in scope, not only is, but may remain, our only record of Piro speech. Bartlett in 1850 had apparently no difficulty in obtaining a vocabulary from the Piro. He employed two Indians residing at Senecú named Hieronymo Peraza and Marcos Alejo. Mr Mooney obtained his Piro material from an old woman said to be the last survivor who had any knowledge of the native tongue.³ Dr Fewkes states after

¹ Bandelier, *Final Report*, Cambridge, 1892, chap. vi.

² Bancroft, *Native Races*, San Francisco, 1883, vol. III, p. 714.

³ According to information furnished by Mr F. W. Hodge.

visiting the Piro in 1901: "The Piros language, as a means of conversation, has practically disappeared, as no one at Senecú or Socorro now converses in it; but there are still remembered many words which, if recorded, would form a larger vocabulary than any known to exist."¹ Mr Hodge writes of the Piro in 1909: "They are 'Mexicans' to all intents and purposes, and perhaps only one or two have any remembrance of their native language."²

Concerning the extinction of this language, as concerning its affinities, our authorities differ.

In August of this year the writer of the present paper determined to visit the Piro. His stay among them was brief and the results were unsatisfactory. A few details will, however, be of interest.

Senecú may be reached from El Paso after a walk of two hours. The pleasant road leads through Juarez, which has the distinction of being the Mexican town most visited by people from the United States, and further, between the small farms which dot the broad, low bank of the river, until it passes the old church of Senecú. If it were not for the church one would hardly know when Senecú is reached, for the river bank is not more thickly populated here than all along the way.

The first person interviewed concerning the Piro at Senecú was a kindly disposed old man named Marcos Pedraza. He answered my first inquiry in jest, saying that I must mean "perros," dogs, since there were neither Piros nor Indians at Senecú. Later he admitted that he was himself a Piro. He and his wife received me with Mexican hospitality and answered my questions with a frankness which contrasted sharply with the reticence of the Pueblo Indian. Neither he nor his wife could remember a word of the Piro language, although they tried hard and were offered every inducement to do so. They told me that they did not dare to fabricate words since I would ask other Indians (they were not thinking of Piro Indians when they said this!) and discover their lies.

¹ Fewkes, The Pueblo Settlements near El Paso, Texas, *American Anthropologist*, Jan., 1902, p. 74.

² Hodge, The Language of the Piros, by John Russell Bartlett, Introduction, *American Anthropologist*, July-Sept., 1909, p. 428.

Marcos Pedraza said that his father, now dead, could speak Piro, but never did so, because the language was of no use. In former years he had heard his father and other people speak in Indian, but he did not understand them. He declared emphatically that he and the rest of the Indians of Senecú know no language but Spanish. He assured me again and again that I would be unable to discover any one who knows Piro. The old people who knew the language had all gone to the skies. Those last surviving had died ten or fifteen years before. One of these was Marcos Alejo—the name of one of Bartlett's informants! My informant did not like to talk about these people of former years. In a second talk with him, held in his chile field, he told me that there were Isleta people at Isleta across the river who still knew Indian and advised me to go to Mariano Colminero, "el cacique de los Tiguas." When I objected that the Isleta language is different from Piro, he said, and I quote his very words, "No, no, es cuasi la misma idioma"—"No, no, it is as it were the same language." He said that the Isleta and Piro people were old friends and allies and that they had no difficulty in talking together in Indian, the two languages being very much alike.¹ My informant pronounced the name Senecú, Sa-ne-kú,² and Piro was spoken as the Mexicans speak it with a strongly trilled *r*. I could obtain no satisfactory information from him about the Suma. He thinks that there are about forty people at Senecú, none of whom are "more Indian" than he is. He knows a couple of families of Piro settled about Isleta and Socorro on the Texas side of the river; also two or three Piros living at various places in Chihuahua south of Senecú, a Piro man named Vicente Pais who has a ranch at San José, Texas, and two other men of the tribe, Dolores Alejo and Alejandro Rodela, living at Las Cruces, New Mexico. He stated in a convincing manner that none of these men know the Piro language.

I visited altogether six Piro homes at Senecú, and had pointed out to me the farm of the married daughter of Hieronymo Pedraza,

¹This statement, whatever importance may be attached to it, directly contradicts Bandelier, who states that "the Piros and Tiguas were not able to understand each other's speech." See the quotation from Bandelier, p. 566, of this article.

²It was noticed that a Mexican at El Paso also pronounced the name thus.

Bartlett's informant, who died twenty-five years ago. None of the people could assist me at all in my quest for Piro words, although they were all friendly. A second old man, named Caspillo, confirmed Marcos Pedraza's statements. This man was of the opinion that I might find people on the other side of the river who could give me Piro words. Piro was, he said, as compared with Tiwa, "poco diferente,"—a little different,—which after all is a rather meaningless phrase.

To conclusively determine whether individuals exist who retain a knowledge of Piro may prove to be a task of weeks or months. It can hardly be urged strongly enough that a thorough and systematic search, such as the writer did not have time to make, be conducted without delay.¹

At Isleta del Sur I secured the services of Mariano Colminero whom the Piro had recommended to me. I found him to be a man of unusual intelligence. He had previously worked with an ethnologist whom I judge from his description to be Dr Fewkes. This man and a number of other old people can converse in the Isleta language. He said that the Piro idiom was different from that of Isleta, but only in minor details, many of the words being the same. Whether Piro is still spoken he does not know. He thought that Vicente Pais, who lives near Isleta, might know Piro. An attempt to find this man was unsuccessful.

With the assistance of Mariano and of an aged neighbor of his named Ponciano Luin² I recorded the Isleta del Sur equivalents of the words contained in Bartlett's Piro vocabulary. No reference was made to the Piro words while obtaining this vocabulary.

Later I discovered that the Tiwa words which I had obtained at Isleta del Sur had in the majority of cases stems identical with those of Bartlett's Piro. At once I determined to prepare corresponding vocabularies in the Tiwa of Isleta del Norte and of Taos, and in the Jemez and Tewa languages, and thus to compare and analyze the Piro.

¹ Dr Fewkes informs me that he is of the opinion that such a search might prove successful. After his visit to the Piro in 1901 he heard of an old man at Socorro who still spoke Piro.

² Perhaps a mistake for Ponciano Olgín, a name mentioned by Fewkes, *The Pueblo Settlements Near El Paso, Texas*, *American Anthropologist*, Jan., 1902, p. 62.

The day after obtaining the Isleta del Sur vocabulary and while its sounds were still remembered I secured at Albuquerque words of corresponding meaning from an Isleta woman named María Chotal. The slight phonetic and lexic differences between the Isleta dialect and that of Isleta del Sur are what one would expect, since the separation occurred more than two centuries ago. On the whole, I imagine that the southern Isleta tongue is the more conservative of the two. The Isleta vocabulary has been compared with Gatschet's Isleta text¹ and has been revised by Dr H. J. Spinden, to whom I am indebted for this assistance. The Taos vocabulary was recorded from José Lopez and Santiago Mirabal; the Jemez informants were Pedro Coloqui, Cristino Yepa, and José M. Toledo; the San Ildefonso Tewa words were obtained from Ignacio Aguilar. These vocabularies are herewith presented.

The alphabet used in the vocabularies is with modifications that employed by Dr J. R. Swanton of the Bureau of American Ethnology. Modifications are :

- ‘e is a rapidly uttered, impure e.
indicates a very open vowel.
- ‘h denotes aspiration of the preceding sound.
- ‘ signifies closure of the glottis.
- ‘ is a very slight h.
- fw resembles the English wh.
- v is bilabial v.
- b, d, g approximate v, r, y.
- m, n are m, n without complete closure.
- ‘ indicates stress accent.
- ~ indicates a falling or lowering pitch accent.
- : indicates that the pitch of the preceding vowel is lower than the sentence pitch.
- indicates that the pitch of the preceding vowel is higher than sentence pitch.

Abbreviations used are : *I. S.*, Isleta del Sur ; *I.*, Isleta ; *T.*, Taos ; *J.*, Jemez ; *S. I.*, San Ildefonso ; *O.* Oración Dominicana.

¹ Gatschet, A Mythic Tale of the Isleta Indians, New Mexico, *Proceedings of the American Philosophical Society*, July-Dec., 1891, pp. 208-218.

Comparative Vocabulary of the Tanoan Languages

English	Piro (Bartlett) ("Piro")	Isleta del Sur ("Towa")	Isleta ("Towa")	Taos ("Towa")	Jemez ("Jemez")	San Ildefonso ("Tewa")
I. Old man	o-ye	s̄onide	s̄onide	s̄onanā	z̄elā	sēn̄do
Man in prime					cōl	sēn̄z
2. Old woman					owā	k̄wiyo
Woman in prime	su-n'ē	Liudaizé	Liudaizé	Liuenā	tyo	k̄wi
3. Youth	at-sam-é	Luwaide	Luwaide	ulālānā	āk̄iw	enu
Boy		Luwanude	Luwanude	uyunnā	āk̄iw	enuke
Little boy		uude	uude	unā	kīw	enuke
4. Maiden	yool-é	tcaidé	tcaidé	kwōlena	ūpekiw	anyu
Girl		taudé	taudé	up̄ahyunnā	ūpekiw	anyuke
Little girl		up̄huude	up̄huude	unā	kīw	anyuke
5. Infant	yu-wa-né	uude	uude	unā	kīw	ep̄i
				up̄'ilenā	kīwēe	ep̄ie
				up̄'iliuñā	kīz̄erwilā	nāb̄i-tada
				n̄utoñē	n̄utoñē	
6. Father, my	el em-ta-ta-é	īnkaiwae	īnkai	āntamena		
Father !	quiatac (O)	īnkawae	īnkey	ānkanā	tata	taž̄a
7. Mother, my	et-em-kia-é	īnsbaue	īnsøy	ānLolina	n̄uzet	nāb̄i-iyiya
Mother !						
8. Husband, my	el-a-man-tsäl-a-é	īnLiue	īnLiuey	ānLitona	'iya	ya
					n̄upiñe	nāb̄i-señ̄n
9. Wife, my	el-a-m'sun-é	īnuwae	īnuay	īnuwai	nīuhoe	nāb̄i-kwi
10. Son, my	el-a-m'eu-i-é	īmpiuwe	īmpuay	ānpuwai	nīuakiwk'ae	nāb̄i-t'owa
11. Daughter, my	el-a-m'eu-i-sun-é	īmpapate	īmpapay	ānpapanā	nīuppekivk'ae	nāb̄i-re
12. Elder brother, my	el-a-m' pu-pu-é				nīupapōe	nāb̄i-pade

Younger brother, my	el-a-m'qu-qñ-é	i ⁿ m paue	i ⁿ mp'auey	ni ⁿ petue
13. Elder sister, my	a-tsi-hem	i ⁿ natuuue	i ⁿ ntutey	ni ⁿ ukol'ae
Younger sister, my		i ⁿ mp'atuey	i ⁿ mp'atuey	ni ⁿ up'ae
14. Indian, people		t'ainin	t'áide	t'áide
15. Head	pi-ném	p'i	p'indema ⁿ	ts'oc
16. Hair	sa-na-é	p ^h a	p ^h aená	f'wolá
17. Face	iso-hém	tc'ða	ts'ðanéma ⁿ	ts'o'oc
18. Forehead	tsi-kia-ném	p'ap ^h ða	p'ap ^h ðena ⁿ	wape
19. Ear	tah-so-hém	t'alða	t'alðana	watye
20. Eye	tsi-hio-né-que	t'cie	tsiñéma ⁿ	se
21. Nose	fu-é	p ^h ði	p ^h ðina ⁿ	f'wose
22. Mouth	sa-na-é	Lak ^h ai	Lamuna ⁿ	tyekwá
23. Tongue	mi-ní'é	nyé	nzwiéna	ju ^z
24. Teeth	we-yé	mwyé	nzwiéna	kwu ⁿ
25. Beard	tsa-fa-hé	Lap ^h a	Lap ^h aená	ndaywá
26. Neck	youl-wa-hem	k'ða	k'ðanéma ⁿ	tö
27. Arm	niá-hem	k ^h a	xanéma	hà
28. Hand	ma-nem	man	manenéma ⁿ	ma ⁿ te
29. Fingers	man-hio-né	mañk ^h u	matxuñá	ma ⁿ nan
30. Nails	man-sa-sihé	mañk ^h utçin	marçelená	mañson
31. Body	el-en-cuerpo-é	kwerpo	tuwata	kwañi
32. Leg	pe-sa-hém	pa	xañá	ho ⁿ
			plena	po
33. Foot	a-ném	en	Ienenéma ⁿ	o ⁿ ñac
34. Toes	an-hio-né	en ^h ku	ie ⁿ xuñá	o ⁿ ñku ⁿ
		u ⁿ	u ⁿ u ⁿ ñá	p ^h e k ^h u ⁿ
35. Bone	ou-an-ém	pié	piñá	piñz
36. Heart	pe-n'é	u ⁿ a	o ⁿ némá ⁿ	u ⁿ
37. Blood	u-hem			u ⁿ p'á
38. Village	tai-hone-a-é	natüi	kwagán	onwi

English	Piro (Bartlett) ("Piro")	Isleta del Sur ("Tiwa")	Isleta ("Tiwa")	Taos ("Tiwa")	Jemez ("Jemez")
39. Chief, governor	tai-k'hem-tsá-é	tabuidé	taboñá	fwí	tuyo
40. Warrior	ah-te-hém	niawelaidé	xotselená	hóvelá	háhise'n
			mañámená		
41. Friend	pi-ye-é	puidé	puiena	k'ia'bá	k'éma
42. House, home	hron-na-é	nat'ó	ñat'ú	tóha'a	tehwa
43. Kettle	si-la-yem	budu	lalmuluena	grivda	pwela
44. Bow	hui-lé	hwidé	hwileena	óh	a'
45. Arrow	sa-wém	Loa	Loañéma	su	su
46. Axe	ha-tsa-é	tcihoa	kwafná	k'ú:wi	tsyo
47. Knife	tse-é	tcie	tsiená	gityi	kop'e
48. Canoe, boat	kia-noa-hem	kanoa	Lafouná	inac	o'nto
49. Shoes	kiu-pi-é	küp	köpáná	pipa	pipa
50. Pipe	pi-pa-hem	pi-pa	hwilená	tyo'ye	sak'ú:
				wápá'a	sá
51. Tobacco	sa-yé	lè	Láñá	hóta	makhówa
52. Sky, heaven	ya-pol-ya-wé	p'apunyi	p'apóená		
	yapolhua (O)				
53. Sun	pu-é	thülide	thülide	pe	thän
54. Moon	a-é	p'áide	p'áide	petyasa	thänse'nnido
				p'á	p'a'
55. Star	a-hio-sa-é	p'ak'hólaide	p'ak'hólaide	p'axölaená	p'ásenndo
56. Day	hrom-é	thöide	thöide	wurhu	a'goyo
57. Night	no-é	nude	nude	cù	thádi
				ndahu	k'hu'ndid'i
58. Light	na-moe-é	p'háide	napuya	inoho	na'tená
59. Darkness	na-mo-hón-é		nanömi	kwile	ndahu
				nak'hu'ndi	nak'hu'ndi

60. Morning	wa-i-vo-na-é	tʰoṇdaa	tʰimda	ciba oli ⁿ	hezendi tʰeia̯di
61. Evening	que-na-é	tavekimhi	kimien	hu'nak'iw	payoge̯i
62. Spring	ha-le-pu-na-é	tanwin	tanwin	toⁿdak'iw	pʰoyed'i
63. Summer	ha-leep-é	tanwin	tuwin	pec	
64. Autumn	tu-la-é	tuwin		pàL	
65. Winter	tu-la-hel-ki-é	tuwin	tuwinenà	hättik'iw	tenudi
66. Wind	hua-é	waide	wai'de	kwi'nic	wâ
67. Thunder	kuen-sil-u-é	kwanidē	kwanidē	g'zunu'qu'lin'ni	kwo'nto̯n
68. Lightning	ki'en-lo-é	upidide	upidide	loyasa	tsigowânu
69. Rain	na-a-waan	p'aide	Luduide	hotyec	kwo'a
70. Snow	pan-waan	pʰani'de	Lulena	su'nu'c	
71. Hail	an-y'le-sol-é	ekuidē	kwanena		
72. Fire	fayé	pʰaide	pʰanena	zö	
73. Water	á-é	p'áide	iékona	ziböda	sak ambé
74. Ice	a-tsé-é	p'atcie	p'áana	f'waya	p'a:
75. Earth, land	na-f'ol-é	namidē	p'ásienna	p'á	p'ó:
	nafolegney (O)		namenà	wâsa	oyi
76. Sea		mar	'u'na'petä	'u'na'petä	na'n
77. River	a-sa-é	p'ela	hu'u'nu	hu'u'nu	
78. Lake	a-ri-é	p'ahwie			
79. Valley	ki-a-yo-ná-é				
80. Hill, mountain	he-hem	p'iēn			
81. Island	na-isla-é				
82. Stone	ia-wé	k'hiaw			
83. Salt	so-án-é	p'ani			
		p'ali			
		k'io'wec			
		arnyá			

English	Piro (Bartlett) ("Piro")	Isleta del Sur ("Tiwa")	Isleta kwâlk'huá	Taos ("Tiwa")	Jemez ("Jemez")
84. Iron	po-ya-o-ná-é			kwéñá	gínw
85. Tree	i-sa-ké				
86. Wood	sa-hé	la	la	laaná	so-n
87. Leaf	a-o-lé	ú	nau	wéna	ká
88. Bark	hia-yem	khai	kui	uena	khwówa
89. Grass	son-é	li	li	hainá	
90. Pine	huan-ém	wé	wí	L	
91. Flesh, meat	ta-we	tuwa	tuwa	kwânlac	
92. Dog	tsu-é	kwâniidé	kwyâniidé	gr'zonin	
93. Buffalo	yo-tson-lé	sizolaidé	sivolide	kyânu	
94. Bear	kio-é	khaide	khaide	tostya	
95. Wolf	kia-lé	ka'dide	ka'dide	hwâlâ	
96. Deer	pi'-ye	pi'de	pi'de	à'nyu	
97. Elk	a-hoom-é			pán	
98. Beaver	a-ya-é			alô	
99. Tortoise	a-tzal-i-é			wâzin	
100. Fly	a-fu-ya-é	p'hunyuide	p'hunyuide	apula	oyo
101. Mosquito	quen-lo-a-tuya-é	tankidán	tankidán	fwiya	óktu
102. Snake	pe-tsun-to-yan-é			tyahafswiya	p'hunu
103. Bird	tsi-ki-é			haya	cug'o
104. Egg	a-weyé	p'anwe	p'ahwe	seyiw	pânyu
105. Feathers	yo-né	k'ea		wá	tsi'de
106. Wings	yo-na-hé	k'ewa	k'cawa	sip'ik'un	
107. Duck	a-pêm-é	p'apiidé	p'apiidé	k'ùn'kùn	
108. Pigeon	pa-lo-ma-é	palomaide	palomaide	ob'in	
109. Fish	pu-é	kaipaide	kaipaide	paloma	paloma
		puide	puide	gi'na'mu	k'o'nwi
				po	pa

110. Salmon		k ^h a ⁿ	xōnēma ⁿ	hi ⁿ
111. Surgeon		-maxān-	-p'at ^h ū-	-k'uzdūlō-
112. Name	ma-kia-pe-tów	-p'at ^h ō-	-p' ^h ūn-	-harcilō-
113. Affection	na-a-tray-é	-p' ^h in-	-p' ^h imō-	-urcilō-
114. White	na-a-se-en-é	-p' ^h ai-	-p' ^h ai-	-amwi-
115. Black	na-u-é			-ts'onwā'
116. Red				-ts'e-
Dark red				-ts'onwā' p'ō:si-
117. Blue	na-tzeu-é	-mo-	-watsacilō	-olcūlō-
118. Yellow	na-sa-wa-é	-tc'u-	-ts'ū-	-watsacilō-
119. Green	na-tzeu-se-é	-cu-	-tsa-	-yabali-
120. Great	ma-wé	-há-	-hō-	-he-
121. Small	hia-wé	-ya-	-yante-	-hii-
122. Strong	ma-tze-é	-kōa-	-kōa-	-ke
123. Young	a-tzem-é		-ts' em-	
124. Old	o-i-sa-é	-k'u-	-k'u-	-hiwo'-
125. Good	ma-nas-u-o-é	-wek'u-	-yak' u-	-nyezapi-
126. Bad	ma-na-foi-ye	-k'u-	-k'u-	-sagriwo'-
127. Handsome	ma-wé	-wek'u-	-wek'u-	-sawagi-
128. Ugly	ma-fo-yé	-wa-	-wa-	-wa-
129. Alive	wa-é	-piu-	-piu-	-pa-
130. Dead	pi-wé			-wei' el-
131. Cold	ma-na-ya-é		na:luma	-nat'i
132. Warm	ma-na-si-lé		na:lilama	-suwa-
133. I	na-o-é	na ⁿ	na ⁿ	na ⁿ
	e-ki-é	in	in	u ⁿ u ⁿ
134. Thou	wa-é	na ⁿ	na ⁿ	na ⁿ
135. He		awa	awena	ni ⁿ c
136. We				u ⁿ mic
137. Ye	na-sa-i			i ⁿ

English	Piro (Bartlett) ("Piro")	Isleta del Sur ("Tawa")	Isleta ("Tawa")	Taos ("Towa")	Jemez ("Jemez")	San Ildefonso ("Tewa")
138. They	wa-quay	yude	yun̄dama ⁿ	nun̄t'ac	náii	
139. This	ia-hém	yede	yentma ⁿ	'ut̄p'ac	háii	
140. That (less remote)		hwade	wanéma ⁿ	'in̄tac	oii	
That (more remote)		tcimba	tsiu	ta'bbki		
141. All	ho-le-mé	hiyakem	ya	mbayeki		
142. Many, much	ma-o-wé	payu ⁿ	p'u ⁿ	toa ⁿ		
143. Who	ta-ou	pa'yu ⁿ	he'i'ena	hiádi		
144. Near	he-o-pé	yanth ^h ó	yant ^h ó	náthá		
145. Today	yo se (O)			tsh ^v 'ndi		
	tse-mé		huaxená	'ut̄p'a		
146. Yesterday	hwe-i-dé		haloma	sedali ⁿ		
147. Tomorrow	hoi-y'é		ha ⁿ	o've		
148. Yes (men say)		aa	aa	hani	hoi	
Yes (women say)			ha ⁿ	o've		
			ha ⁿ xuená	hani		
149. No	hen-kio-yé	indaa		tiyo	yo	
150. One	eu-i-yu	m'wim	wim	a	wi	
		wisi	wisi	p'u ⁿ	we ^b pi	
151. Two	wi-yú	patcua	patco	wic	wiye	
152. Three	mðñ-tu	wena	wien	tár	póye	
153. Four	we-no	p'antu	p'antu	wiJ	yonu	
154. Five	an-tao	mat'i	mat'i	p'ine ^b o	p'Anu	
155. Six	ma-seu	tsu-wuh	tsu'u	mañLi	si.	
156. Seven		hui-li-yú	hwid'i	sóL	tse'	
157. Eight		hwé	hwid'i	hóL	khabé	
158. Nine			hwé	hwánu	hwánu	

159. Ten	tēn-yo	ti ⁿ dēhem	tēm	tān	tān
160. Eleven	tēn-u-i	ti ⁿ swim	ti ⁿ wim	tān ^p ’ūn	tān ^a iwi
161. Twelve	tēn-wi-yu	ti ⁿ wisi	ti ⁿ wisi	tān ^a wic	tān ^a diwy’ ^c
162. Twenty	tēn-te-yo	with ⁿ	witi ⁿ	wita ⁿ	wetān
163. Forty	we-na-te-leo	weent ⁿ	wient ⁿ	wiñtān	yonañtān
164. One hundred	tēn-na-te-leo	tātela	ti ⁿ titati ⁿ	tān ^a wiñkwaṭān	tān ^a gintān
165. Four hundred	wen-tēn-na-leo	wenti ⁿ titati ⁿ	wiñsienia	wiñtān ^a gintān ^a	wonutān ^a gintān ^a
166. One thousand	tēn-yo-tēn-na-ta-leo	mil	(tān ^a tēla)	wi mil	yonutān ^a gintān ^a
167. To eat	-tu-	-k u-	-k’ a-	-k’ o-	-kwōyū-
168. To drink	-su-	-su ⁿ -	-su ⁿ -	-su ⁿ wa-	-cyu ⁿ -
169. To run	-tōd/we-	-tōd/we-	-we-	-ā-	-selam ⁿ -
170. To dance	hi-we-ēe	hi-we-ēe	-t’ a-	-t’ a-	-t’ a-
171. To sing	ha-ya-ta-hōi	ha-ya-ta-hōi	-ca-	-ya-	-ya-
172. To sleep	ha-ya-tu-mōo	ha-ya-tu-mōo	-ya-	-yapiuxa-	-kha’wan-
173. To speak	ha-tze-sa-yoi	ha-tze-sa-yoi	-tu-	-dō-	-yok ^b o-
174. To see	hin-mo-oi	hin-mo-oi	-mu ⁿ -	-tu ⁿ .	-tu ⁿ .
175. To love	ta-pe-tao	ta-pe-tao	-pe-?	-mu ⁿ .	-mu ⁿ .
176. To kill	kie-hu-nao	kie-hu-nao	-hu-	-wa-	-maxān-
177. To sit	hel-en-é	hel-en-é	-La-	-’ō-	-’ō-
178. To stand	hel-wi-én	hel-wi-én	-wi-	-he-	-he-
179. To go	hel-o-fo-yé	hel-o-fo-yé	-min-	-ā-	-ā-
180. To come	na-hele-yao	na-hele-yao	-in-	-in-	-in-

The stems of the Piro words are discussed first, in the order in which they occur in the vocabulary. Next the affixes are discussed in alphabetic order. The hyphenization of the Piro has been retained. Hyphens used in writing the other languages indicate that only a part of the word is quoted.

EXPLANATION OF PIRO STEMS

1. *o-ye*, man. That this word means old man is evident from P. 124 *o-i-sa-é*, old. Unexplained; but cf. J. 2, I. S. 6, and I. S. 7.
2. *su-n'e*, woman. *su-* = I. S., I. and T. 2 *liu-*. With the whole word cf. T. *liuunà*, old woman, diminutive of T. *liuendà*, woman.
3. *at-sam-é*, boy. Cf. P. 123 *a-tzem-é*, young; P. 122 *ma-tse-é*, strong. *t-sam-* = T. 123 *-ts'em-*, young.
4. *yool-é*, girl. *yoo* = I. S., I. and T. diminutive element *uu*, *u*. With the whole word cf. I. S. 4 *uuide*, little girl; I. 5 *uude*, infant.
5. *yu-wa-né*, infant. *yu-* = P. 4 *yoo* = I. S., I. and T. diminutive element *uu*, *u*. *yu-wa-* = I. S. 10 *-uwa-*.
6. *el-em-ta-ta-é*, my father. Cf. O. *quitatac* (for *quitatae?*), our father. *-ta-ta-* = I. 6 *-tata-*; J. 6 *tata*. Cf. also Spanish *tata*, father. *ta* is clearly Tanoan. Similar reduplication occurs in P. 12, 13. With *-em-ta-ta-é* cf. I. 6 *i"ntataey*, my father.
7. *et-em-kia-é* (for *el-em-kia-é?*), my mother. *-kia-* = I. S., I. and T. 7 *ka*. With *-em-kia-é* cf. I. 7 *i"nkey* (for *i"nkaey?*), my mother.
8. *el-a-man-tsal-a-é*, my husband. *-tsal-a-* = I. S. 8 *-söa-*. Tongue raising gives ö an l-like quality. With *-a-m-* — *-tsal-a-é* cf. I. S. 8 *i"nsöae*.
9. *el-a-m'sun-é*, my wife. '*sun-é* = P. 2 *su-n'e*.
10. *el-a-m'eu-i-é*, my son. *eu-* = P. 4 *yoo* = P. 5 *yu-* = I. S., I., T. diminutive element *uu*, *u*. *eu-i-* = P. 5 *yu-wa-* = I. S. 10 *-uwa-*. With *-a-m'eu-i-é* cf. I. S. 10 *i"nuwae*, my son.
11. *el-a-m'eu-i-sun-é*, my daughter. *el-a-m'eu-i-* = P. 10 *el-a-m'eu-i-*. *sun-é* = P. 2 *su-n'e* = P. 9 '*sun-é*.
12. *el-a-m'pu-pu-é*, my brother. '*pu-pu-* = I. S. 12 *-papau-*. With *a-m'pu-pu-é* cf. I. S. 12 *i"npapae*.
13. *el-a-m'qu-qu-é*, my sister. *qu-qu-* = I. S. *-tutuu-*. With *-a-m'qu-qu-é* cf. I. S. *i"ntutue*. It is most probable that Bartlett mistook t for q. Dr Fewkes writes "naku," house, for my I. S. 42 *natthô*, house.¹ Cf. however J. 13.

¹ Fewkes, The Pueblo Settlements near El Paso, Texas, *American Anthropologist*, Jan., 1902, p. 67.

14. *a-tsi-hem*, Indian, people. *-tsi-* = I. *ley*, Indian, people.
15. *pi-nêm*, head. *pi-* = I. S. and I. 15 *p'i* = T. 15 *p'i*. With the whole word cf. T. 15 *p'inèma*ⁿ, head. P. 15 *pi-nêm* : T. 15 *p'inèma*ⁿ :: I. S. 150 *mwim* : T. 150 *wema*.
16. *sa-na-é* (for *fa-na-é?*), hair. Same as P. 22 *sa-na-é*, mouth! *sa-* = P. 25 *fa-* = I. S., I. 16 *p^ha* = T. 16 *p^ha-*. With *sa-na-* cf. T. 16 *p^haena*, hair.
17. *tso-hém*, face. *tso-* = I. S. 17 *tc'ô-* = I. 17 *tc'û* = T. 17 *ts'ö-*.
18. *tsi-kia-ném*, forehead. *tsi-* = P. 20 *tsi-* = I. S. 20 *'ci-* = I. 20 *'ci* = T. 20 *tsi-*. *-kia-* = T. -*kwa-* in T. *tsikwanèma*ⁿ, eyebrows. With the whole word cf. T. *tsikwanèma*ⁿ, eyebrows, forehead.
19. *tah-so-hém*, ear. *tah-so-* = I. S. 19 *t'älô-* = I. 19 *t'älû-* = T. 19 *t'älö-*.
20. *tsi-hio-né-que*, eye. *tsi-* = P. 18 *tsi-* = I. S. 20 *'ci-* = I. 20 *'ci* = T. 20 *tsi-*. The rest of the word is not explained. With *-hio* cf. 88; those words mean skin as well as bark. I. *'cik'ui* means eyelid. With *-que* one might compare J. *-kwâ* in J. *sekwâ* eyes; J. *se* means one eye.
21. *fu-é*, nose. *fu-é* = I. S. 21 *p^höi* = I. 21 *p^höey* = T. 21 *p^höt-*.
22. *sa-na-é*, mouth. *sa-* = P. 25 *tsa-* = I. S., I., T. 22 *La-*.
23. *mi-n'ë*, tongue. *mi-n'e* = I. S. 23 *nyë* = I. 23 *yⁿë*. *mi-n'* is used here evidently to express nasalized *y*.
24. *we-yé*, teeth. *we-yé* = I. S. 24 *nwyë* = I. 24 *wⁿë* = T. 24 *nwiä-*.
25. *tsa-fa-hé*, beard. *tsa-* = P. 22 *sa-* = I. S., I., T. 22 *La-*, mouth. *fa-* = P. 16 *sa-* = I. S., I. 16 *p^ha* = T. 16 *p^ha-*, hair. The word means 'mouth-hair,' hair about the mouth. With *tsa-fa-* cf. I. S. 25 *lap^ha* and T. 25 *lap^ha-*.
26. *youl-wa-hem*, neck. *youl-wa-* = I. S., I. 26 *k'öa* = T. 26 *k'öa-*. For a similar spelling used by Bartlett cf. P. 8.
27. *hia-hem-*, arm. *hia-* = I. S., I. 27 *k^ha* = T. 27 *xa-*.
28. *ma-nem*, hand. *ma-n* = I. S., I. 28 *man* = T. 28 *man-*. cf. 29 and 30.
29. *man-hio-né*, fingers. *man-* = P. 30 *man-* = I. S., I., T. 29, 30 *maⁿ-*. Cf. 28. *-hio-* = P. 34 *-hio-* = I. S. 29, 30, 34, I. 29, 34 *-k^hu-* = T. 29, 34 *-xu-*. *k^hu* is said to mean end in the Isleta language. With the whole word cf. T. 29 *maⁿxuenà*, fingers.
30. *man-sa-si-hé*, nails. *man-* = P. 29 *man-* = I. S., I., T. 29, 30 *maⁿ-*. Cf. 28. *-sa-* = *-k^hu-* in I. S. 30 *maⁿk^huⁿcin*, nails; or = *-sa-* in P. 32 *pe-sa-hem*, leg. *-k^hu-* appears as *-hio-* in P. 29, 34. *-si-* = I. S., I. 30 *-ci-* = T. 30 *-tsë-*. *man-sa-si-* is possibly comparable to I. S. 30 *maⁿk^huⁿci-*.

31. *el-en-cuerpo-é*, body (my body?). *-cuerpo-* = Spanish *cuerpo*, body.

32. *pe-sa-hém*, leg. *pe-* = I. S., I. 32 *pa* = T. 32 *pa-*. *-sa-* = P. 77 *-sa-* = I. S., I., T. 77 *-la*, large. With *pe-sa-* cf. I. *paLa*, T. *paLa-*, "big fat leg."

33. *a-nêm*, foot. *a-n* = I. S., I. 33 *en* = T. 33 *ien-*. Cf. also 34.

34. *an-hio-né*, toes. *an-* = I. S., I. *eⁿ-* = T. *ieⁿ-*. *-hio-* = P. 29 *-hio-* = I. S. 29, 30, 34, I. 29, 34 *-k^hu-* = T. 29, 34 *-xu-*. With the whole word cf. T. 34 *ieⁿxuend^a*, toes.

35. *ou-an-ém*, bone. *ou-an* = I. S., I. 35 *uⁿ* = T. *uⁿuⁿ-*. With the whole word cf. T. *uⁿuⁿnèmaⁿ*, bones.

36. *pe-n'é*, heart. *pe-* = I. S., I. 36 *piè* = T. 36 *piäñ-*. With the whole word cf. T. 36 *piäñend^a*, heart.

37. *u-hém*, blood. *u-* = I. S., I. 37 *uⁿ* = T. 37 *oⁿ-*.

38. *tai-hone-a-é*, village. *tai-* = I. S. 38 *-tôi* = I. 38 *-tûey*. The rest of the word is unexplained.

39. *tai-k'hem-tsa-é*, chief. Unexplained.

40. *ah-te-hem*, warrior. Unexplained.

41. *pi-ye-é*, friend. *pi-y* = *-puy-* in I. S. *iⁿmpuywae*, my friend = I. 41 *pui-* = T. 41 *pui-*.

42. *hron-na-é*, house. *hro* = I. S. 42 *-t^hô* = I. 42 *-t^hû* = T. 42 *t^hû-*. With *hron-na-* cf. T. *t^hûnà*, house.

43. *si-la-yem*, kettle. *si-la-* = P. 132 *-si-le* = I. 132 *-Lide-* = T. 132 *-Lila-*, hot.

44. *hui-lé*, bow. *hui-lé* = I. S., I. 44 *hwide* = T. 44 *hwile-*.

45. *sa-wêm*, arrow; *sa-w* = I. S., I., T. 45 *lo-*.

46. *ha-tsa-é*, axe. *ha-tsa-* = Spanish *hacha*, axe.

47. *tse-é*, knife. *tse-* = I. S., I. 47 *'cie* = T. 47 *tsia-*.

48. *kia-noa-hem*, canoe, boat. *kia-noa* = Spanish *canoa*, canoe, boat.

49. *kiu-pi-é*, shoes. *kiu-pi* = T. 49 *köapä-*. Cf. I. S. 49 *köap* and I. 49 *küap*.

50. *pipa-hem*, pipe. *pipa-* = Spanish *pipa*, pipe.

51. *sa-yé*, tobacco. *sa-* = I. S., I. 51 *lè* = T. 51 *Lä-*. The y probably merely indicates the glide between a and e. It suggests that the tongue was raised while pronouncing a, thus approaching ä or è.

52. *ya-pol-ya-wé*, sky, heaven. Both forms from O. show *yapol-*. With *pol-* or *pol-ya-* cf. T. 52 *pō-*. For this spelling cf. P. 8 and 26.

53. *pu-é*, sun. Unexplained; but cf. J. *pe*, sun.

54. *a-é*, moon. *a-* = I. S., I., T. 54 *p'ä-*.

55. *a-hio-sa-é*, star. *a-hio-sa-* = I. S. 55 *p'ak^hôla* = I. 55 *ak^hûla-* = T. 55 *p'axôla-*.

56. *hrom-é*, day. *hro* = I. S. 56 *t^hō-* = I. 56 *t^hā-* = T. 56 *t^hō-*.

57. *no-é*, night. *no-* = I. S., I., T. 57 *nu-*.

58. *na-moe-é*, light. *-moe-* = I. *-puyaⁿ* in I. *napuyaⁿ*, light. For Bartlett's *m* for I. S., I., T. *p* see P. 152. But cf. also S. I. Tewa *múwá*, "the light accompanying lightning." Also cf. P. 58 *na-mohion-é*, darkness, in which *-hion-* seems to be the element which signifies darkness and *-mo-* merely a formative element.

59. *na-mo-hión-é*, darkness. *-hion-* is apparently the same as J. 59 *-huⁿ* and S. I. 59 *-k^huⁿ-*. *-mo-* seems to be used in T. verbs as a temporal infix. With the structure of this word cf. P. 38.

60. *wa-i-vo-na-é*, morning *wa-i-* = P. 147 *hwe-i-*. Unexplained.

61. *que-na-é*, evening. Unexplained. *que-* = I. S. 61 *-ki-* = I. 61 *ki-?*

62. *ha-le-pu-na-é*, spring. Unexplained. *ha-le-p* = P. 63 *ha-leep-*. With exception of *u-na-* this word is the same as P. 63, of which it is probably a diminutive.

63. *ha-leep-é*, summer. Unexplained. *ha-leep-* = P. 62 *ha-le-p*. With omission of *u-na-* the same as P. 62.

64. *tu-la-é*, autumn. *tu-* = P. 65 *tu-* = I. S., I. 64, 65 *tu-* = T. 65 *tu-*.

65. *tu-la-hel-ki-é*, winter. *tu-* = P. 64 *tu-* = I. S., I. 64, 65 *tu-* = T. 65 *tu-*. *-hel-ki-*, unexplained.

66. *hua-é*, wind. *hua-* = I. S., I. *wa-* = T. *wā*.

67. *kuen-sil-u-é*, thunder. *kuen-* = I. S. and I. 67 *kwan-* = T. 69 *kwan-*, "a sudden rain." Cf. also P. 68 *kien-si* = T. 67 *-tsi-*. T. 67 *la-* = J. 68 *-tyà-, -tye-*. With omission of *-si* this word is probably the same as P. 68.

68. *kien-lo-é*, lightning. Probably the same as P. 67 with omission of *-si*.

69. *na-a-wāan*, rain (rain falls?). *-a-* = P. 71 *a* = P. 73 *ā-* = P. 74, 77, 78 *a-* = I. S. 69, 74, I. 73, 74, 78, T. 73, 74, 76, 77, 78, *p'ā-* = I. S. 73 *p'ā*. *-wāan* = *-wán-* in Gatschet's I. *pá 'lu 'laide wána*, rain (*pá*) fell (*wána*) in heavy drops ('*lu 'laide*).¹

70. *pan-wāan*, snow. *pan-* = I. S., I., T. 70 *p^ha-wāan*. *-wāan* as in P. 69.

71. *an-y'le-sol-é*, hail. *a* = P. 69 *-a-* P. 73 *ā-* = P. 74, 77, 78 *a-* = I. S. 69, 74, I. 73, 74, 78, T. 73, 74, 76, 77, 78 *p'ā-* = I. S. 73 *p'ā*. The rest is unexplained.

72. *fa-yé*, fire. *fa-* = I. S., I., T. 72 *p^hā-*.

¹Gatschet, A Mythic Tale of the Isleta Indians, New Mexico, *Proceedings of the American Philosophical Society*, vol. XXIX, p. 211.

73. *a-é*, water *a-* = P. 69 *-a-* = P. 71 *a* = P. 74, 77, 78 *a-* = I. S. 69, 74, I. 73, 74, 78, T. 73, 74, 76, 77, 78 *p'ā-* = I. S. 73 *p'ā*. The circumflex suggests that Bartlett noticed some peculiar quality of the *a-*, perhaps the initial *p'*.

74. *a-tsè-é*, ice. *a-tsè-* = I. S., I. 74 *p'ācie* = T. *p'ātsie-*. *a-* is evidently the word for water, as in P. 69, 71, 73, 77, 78.

75. *na-f'ol-é*, earth, land. Cf. O. *nafoleguey*, on earth. *na-* = I. S. 75 *nam* = I., T. 75 *nam-*. The rest is unexplained.

76 — — —.

77. *a-sa-é*, river. *a-sa-* = I. S. 77 *p'eLa-* = I. 77 *p'eLa*, or = T. 77 *p'āLa-*. T. *p'āLa-* clearly means big water. Whether P. 77 *a-* is the same as T. *p'ā-* or is rather to be compared to the obscure *p'e-* in the I. S. and I. words cannot be determined.

78. *a-tsi-é*, lake. *a-tsi-* = T. *p'ātsi-* in T. *p'ātsinà*, spring. *a-* = P. 69 *-a-* = P. 71 *a* = P. 73 *a-* = P. 74, 77 *a-* = I. S. 69, 74, I. 73, 74, 78, T. 73, 74, 76, 77, 78 *p'ā* = I. S. 73 *p'ā*.

79. *ki-a-yo-ná-é*, valley. *ki-a-yo-* = T. 79 *xōa-*.

80. *he-hem*, hill, mountain. *he-* = I. *hwìè*, hill, mountain?

81. *na-isla-é* island. *-isla-* = Spanish *isla*, island.

82. *ia-wé*, stone. *ia-w* = P. 84 *-ya-o-* = I. S. 82 *k'iauw* = I. 82 *k'iuw* = T. 82 *hiuw-*. Cf. especially I. S. 82 *k'iauw*, stone.

83. *so-án-é*, salt. *so-*, unexplained. *-án-é* = I. S. 83 *p'ani*, salt. Cf. also I. 83 and T. 83.

84. *po-ya-o-ná-é*, iron. *po-*, unexplained. *-ya-o-* = P. 82 *ia-w* = I. S. 82 *k'iauw* = I. 82 *k'iuw* = T. 82 *hiuw-*, stone.

85. *i-sa-ké*, tree. The Tanoan languages possess no generic name for tree. *i-*, unexplained. *-sa-* = P. 86 *sa-* = I. S., I. 86 *la* = T. 86 *la-*.

86. *sa-hé*, wood. *sa-* = P. 85 *-sa-* = I. S., I. 86 *la* = T. 86 *la-*.

87. *a-o-lé*, leaf. *a-o-* = I. S. 87 *ü* = I. 87 *-u* = T. 87 *ü-*.

88. *hia-yem*, bark. *hia-* I. S. 88 *k'ai*, skin, bark = T. 88 *xai-*, skin, bark. Cf. also I. 88 *k'ui*, skin, bark and P. 20 *-hio-*.

89. *son-é*, grass. *son-* is the phonetic equivalent of J. 89 *tyuⁿ*, grass. J. 89 *tyuⁿ* : P. 89 *son-* :: J. 59 *-huⁿ* : P. 59 *-hion-*.

90. *huan-ém*, pine. *hua* = I. S. 90 *wé* = I. 90 *wi* = T. 90 *wä-*. Cf. especially the I. S. and T. forms.

91. *ta-we*, meat. *ta-we* = I. S., I. 91 *tuwa* = T. 91 *tuwa-*.

92. *tsu-é*, dog. *tsu-* = T. 92 *tsu-*. Cf. also S. I. *tse-*, dog. The I. S., I and J. use an entirely different word.

93. *yo-tson-lé*, buffalo. Unexplained. No native word for buffalo could be obtained at I. S. or I.

94. *kio-é*, bear. *kio-* = I. S. 94 *kōa-* = I. 94 *kūa-* = T. 94 *kōa-*.
 95. *kia-lé*, wolf. *kia-* = I. S., I., T. 95 *ka-*.
 96. *pi-ye*, deer. *pi-* = I. S., I. 96 *pi-* = T. 96 *pä-*. Cf. especially the I. S. and I. forms.

97. *a-hoom-é*, elk. *a-hoom-* = T. *p'a hum-* in T. *p'a humenà*, white-tailed deer. Bartlett's informants doubtlessly misunderstood him.

98. *a-ya-é*, beaver. *a-ya-* = I. 98 *p'a'ca-* = T. 98 *p'aya-*. Cf. especially T. *p'aya-*.

99. *a-tzal-i-é*, tortoise. *a-tzal-i-* = T. 99 *p'atsalu-*. The u of the Taos form is sometimes umlauted into an i-like sound by its setting.

100. *a-fu-ya-é*, fly. *a-fu-ya-é* = P. 101 *-a-tu-ya-é*. For *a-* see list of formative elements. *-fu-ya-* = I. S., I., T. 100 *p'unyu-*.

101. *quen-lo-a-tu-ya-é*, mosquito. Bartlett suggests that the word means "the insect that bites." *quen-lo-* somewhat resembles T. 101 *xwitola-*. *-a-tu-ya-é* = P. 100 *a-fu-ya-é*, fly, "insect."

102. *pe-tsun-to-yan-é*, snake. *pe-tsü-* = T. 102 *pätsu-*, snake. The I. S. and I. forms, when obtained, will probably begin with *pe* or *pi*. The rest of the word is unexplained.

103. *tsi-ki-é*, bird. *tsi-* = T. 103 *tsi-*, bird. The T. form is apparently a diminutive.

104. *a-we-yé*, egg. *a-we-* = I. S., I. 104 *p'ahwe* = T. 104 *p'ahwā-*.

105. *yo-né*, feathers. *yo-* = P. 106 *yo-* = I. S. 105 *k'ea* = I. S. 106, I. 106, T. 105, 106 *k'ea-*.

106. *yo-na-hé*, wings. *yo-* = P. 105 *yo-* = I. S. 105 *k'ea* = I. S. 106, I. 106, T. 105, 106 *k'ea-*.

107. *a-pém'e*, duck. *a-pé* = I. S., I., T. 107 *p'api-*.

108. *pa-lo-ma-é*, pigeon. *pa-lo-ma-* = Spanish *paloma*, pigeon. I. S., I. 108 *kaipaide*, T. 108 *p'iängaipaana*, mean wild pigeon.

109. *pu-é*, fish. *pu-* = I. S., I. 109 *pu-* = T. 109 *pö-*. Cf. especially the I. S. and I. forms.

110. _____.

111. _____.

112. _____.

113. *ma-kia-pe-tów*, affection. *ma-kia-* = T. 113 *maxâ-*. *-pe-tów* = P. 175 *-pe-tao*. *-pe-* may be compared with the doubtful I. 175 *-pe-*, to love.

114. *na-a-tzay-é*, white. *a-tzay-* = I. S. 114 *p'at'ô* = I. 114 *p'aut'* = T. 114 *p'at'ô*, white.

115. *na-a-se-en-é*, black. *-se-en-* = I. S., I., T. 115 *p'ân-*, black.

116. *na-u-é*, red. With *-u-* cf. J. 116 *u"-*, red, and S. I. 116 *ð"-*, dark red. Cf. also P. 37 *u-*, blood.

117. *na-tzeu-é*, blue. *-tzeu-* = P. 119 *-tzeu-* = I. 119 *-'cu-*, green. Cf. also T. 117, 119 *-tsa-*, blue, green. With omission of *-se-* the same as P. 119.

118. *na-sa-wa-é*, yellow. *-sa-wa-* = I. S., I. 118 *-tc'u-* = T. 118 *-ts'u-*, yellow.

119. *na-tzeu-se-é*, green. *-tzeu-* = P. 117 *-tzeu-* = I. 119 *-'cu-*. Cf. also T. 117, 119 *-tsa-*, blue. With *-se-* cf. S. I. 119 *-si-*. *-se-* inserted, otherwise the same as P. 117.

120. *ma-wé*, great. *ma-wé* = P. 127 *ma-wé*, handsome. *ma-* = P. 121, 122, 126, 127, 128, 131, 132, 142 *ma-*. See list of affixes. With *ma-* cf. S. I. *ma-*, great, superior.

121. *hia-wé*, small. *hia-* = I. S., T. 121 *-ya-*. Cf. also I. 121 *-yu-*.

122. *ma-tze-é*, strong. *-tze-* = P. 3 *t-sa* = P. 123 *-tze* = T. 123 *-ts'e-*, young.

123. *a-tzem-é*, young. *-tzem-* = P. 3 *t-sam-*, boy = T. 123 *-ts'em-*, young. Cf. also P. 122 *-tze-*, strong.

124. *o-i-sa-é*, old. Unexplained. *o-i-* = *o-y* in P. 1 *o-ye*, man.

125. *ma-na-su-o-é*, good. *-su-*, unexplained.

126. *ma-na-foi-ye*, bad. *ma-foi-ye* = P. 128 *ma-fo-yé*, ugly. Unexplained.

127. *ma-wé*, handsome. *ma-wé* = P. 120 *ma-wé*, great. Cf. S. I. *ma-*, great, superior.

128. *ma-fo-yé*, ugly. With exception of *-na-* the same as P. 126 *ma-na-foi-ye*, bad. Unexplained.

129. *wa-é*, alive. *wa-* = I. S., I., T. 129 *-wa-*.

130. *pi-wé*, dead. *pi-w* = I. S., I., T. 130 *-piu-*.

131. *ma-na-ya-é*, cold. *-ya-*, unexplained.

132. *ma-na-si-lé*, warm. *-si-lé* = P. 43 *si-la-* = I. 132 *-lide-* = T. 132 *-lila-*.

133. *na-o-é*, I. *na-* = I. S., I., T. 133 *naⁿ*. In I. S., I. and T. some intransitive verbs denoting motion begin in the first person singular with *naⁿo*.

134. *e-ki-é*, thou. *e-* = I. S., I. 134 *iⁿ* = T. 134 *āⁿ*.

135. *wa-é*, he. *wa-* = P. 138 *wa-*. I. S., I. 135 *awa*, he, she, it = T. 135 *awe-*, that one. *na*, also meaning he, she or it, occurs 26 times in the Piro vocabulary. See list of affixes.

136. *na-sām*, we. *am*, unexplained.

137. *na-sa-i*, ye. *-i* = P. 134 *e-* = I. S., I. 134 *iⁿ* = T. 134 *āⁿ*.

138. *wa-quay*, they. *wa-* = P. 135 *wa-* = I. S., I. 135 *awa* = T. 135 *awe-*.

139. *ia-hēm*, this. *ia-* = I., T. 140 *ye-*, that (less remote).

140. — — — —.
141. *ho-le-mé*, all. Unexplained.
142. *ma-o-wé*, many, much. *-o-*, unexplained.
143. *ta-ou*, who. *ta-ou* = I. S. 143 *payuⁿ* = I. 143 *paiyuⁿ*. Cf. T. 143 *p'uⁿ*. Cf. also I. S. 143 *todⁿ*.
144. *hé-o-pé*, near. *he-* = T. 144 *he-*.
145. *hio-sé*, today. Cf. O. *yo se*, this day. *hio-se* = I. S. 145 *yant^hō* = I. 145 *yant^hū* = T. 145 *yant^hoya*. With *hio-* and *yan-* cf. P. 139 *ia-* and I. T. 140 *ye-*, that (less remote).
146. *tse-mé*, yesterday. Unexplained. Cf. S. I. 146 *tsāⁿndi*, yesterday.
147. *hwe-i-dé*, tomorrow. Unexplained. *hwe-i-* = P. 60 *wa-i-*.
148. *hoi-y'ē*, yes. It is assumed that this is the men's word for yes, since Bartlett's informants were men. *hoi-y* appears to be identical with the S. I. men's word for yes, *hoi*. The I. S., I. and T. show no difference between the men's and women's language, and at S. I. there seems to be a tendency on the part of the men to substitute *hāⁿ*, the women's word for yes, for *hoi*, the men's word.
149. *hen-kio-yé*, no. *hen-kio-* = T. 149 *hāⁿxu-*.
150. *eu-i-yu*, one. *eu-i-* = P. 160 *-u-i* = I. S. 150 *mwi-* = I. S. 160 *-mwi-* = I. 150 *wi-* = I. 160, 164, 165 *-wi-* = T. 150 *wi-* = T. 150, 164 *we-* = T. 160 *-we-*. For *-yu*, *-u* of this and following numerals see the list of affixes.
151. *wi-yú*, two. *wi-* = P. 161 *-wi-* = I. S., I., T. 151, 162 *wi-* = I. S., I., T. 161 *-wi-*. P. shows *-yu*; I. S. and I. show *-si*; T. shows *-inā*. Possibly more than one suffix can be used in each of these languages.
152. *môn-tu*, three. *môn-tu* = I. S. 152 *patcu-* = I. 152 *patco*. Cf. also T. 152 *payua* and with Bartlett's *-tu* cf. possibly J. 252 *tāx*.
153. *we-no*, four. *we-no* = P. 163 *we-na-* = I. S. 153 *wena* = T. 153 *wiānu*. *we-n* = P. 165 *wen-* = I. S. 163 *ween-* = I. 153 *wien* = I. 163, 165 *wien-* = T. 163, 165 *wiān-*.
154. *an-tao*, five. *an-tao* = I. S. 154 *p'antua*. *an-ta* = I. 154 *p'anto*. Cf. T. 154 *p'anyua*.
155. *ma-seu*, six. *ma-se* = I. S., I., T. 155 *maⁿli*.
156. *tsu-wuh*, seven. *tsu-wuh* = I. 156 *'cuu* = T. 156 *tsuu*. *tsu-* = I. S. 156 *'cu*.
157. *hui-li-yú*, eight. *hui-li-* = I. S., I. 157 *hwidi* = T. 157 *hwili*.
158. *hua-weh*, nine. *hua-weh* = I. S. 158 *hwⁿè* = I. 158 *hūⁿð*. Cf. T. 158 *hwīⁿð*.
159. *tēn-yo*, ten. *tēn-yo* = P. 162 *-te-yo-* = P. 166 *tēn-yo-*. *tēn-* = P. 160, 161, 162 *tēn-* = P. 165, 166 *-tēn-* = I. S. 160, 161 *tiⁿ-* = I. S.

162, 163 -*tīn* = I. 159, 160, 161, 164 *tiⁿ* = I. 162, 163, 164, 165 -*tiⁿ* = I. 165 -*tiⁿ* = T. 159 *tē-* = T. 159, 160, 161, 164, 166 *tām-* = T. 162, 163 -*tām*. The suffix -*yo* appears on this word only in P. 159, 162, 166.

For -*na-* of *tēn-na-* see list of affixes.

160. *tēn-u-i*, eleven. Cf. P. 159 and P. 150.

161. *tēn-wi-yu*, twelve. Cf. P. 159 and P. 151.

162. *tēn-te-yo*, twenty, literally "tenteen." Cf. P. 160 and P. 161. -*te-yo* probably for *tēn-yo*. Cf. P. 159. The other languages all show a form which contains the numeral two.

163. *we-na-te-leo*, forty. With *we-na-* cf. P. 153. -*te-le* = P. 164 -*te-le* = P. 165, 166 -*ta-le* = T. 164 (166) -*tēla*.

164. *tēn-na-te-leo*, one hundred. With *tēn-* cf. P. 159. For -*na-* see list of formative elements. With *te-le* cf. P. 163, 165, 166, T. 164 (166).

165. *wen-tēn-na-ta-leo*, four hundred. With *wen-* cf. P. 153. With -*tēn-* cf. P. 159. For -*na-* see list of formative elements. With -*ta-le* cf. P. 163, 165, 166, T. 164 (166).

166. *tēn-yo-tēn-na-ta-leo*, one thousand. With *tēn-yo-* cf. P. 159. With -*tēn-* cf. P. 159. For -*na-* see list of formative elements. With -*ta-leo* cf. P. 163, 165, 166, T. 164 (166).

167. — — — — .

168. *ta-sōn-yáu*, to drink. -*sōn* = I. S., I., T. 168 -*suⁿ-*.

169. *ha-me-wé*, to run. -*me-* = I. S., I. 179 -*miⁿ-* = T. 179 -*mäⁿ-*. With -*wé* cf. possibly I. S., I. T. 169 -*we-*.

170. *hi-we-ēe*, to dance. Unexplained.

171. *ha-ya-ta-hoi*, to sing. -*ya-ta-* = T. 171 -*yat'a-*.

172. *ha-ya-tu-móo*, to sleep. -*ya-* = I. S., I., T. 172 -*ya-*.

173. *ha-tze-sa-yoi*, to speak. With -*tze-* cf. possibly J. 173 -*tse-*.

174. *hin-mo-oi*, to see. -*mo-* = I. S., I. T. 174 -*muⁿ-*.

175. *ta-pe-tao*, to love. -*pe-tao* = P. 113 -*pe-tōw*. With -*pe-* cf. the doubtful I. -*pe-*, to love.

176. *kie-hu-nao*, to kill. -*hu-* = I. S., I., T. 176 -*hu-*.

177. *hel-en-é*, to sit. With -*en-* cf. possibly S. I. 177 -*ām-*.

178. *hel-wi-én*, to stand. -*wi-* = I. S., I., T. 178 -*wi-*.

179. *hel-o-fo-yé*, to go. Unexplained.

180. *na-hele-yao*, to come. -*e-* = I. S., I. 180 -*iⁿ-* = T. 180 -*ām-*.

EXPLANATION OF PIRO AFFIXES

a-, a prefix accompanying adjectives, the same as I. S., I., T. *p'a-*. P. 3, 114, 115, 123.

a-, a prefix occurring with names of animals and with the word meaning egg, the same as I. S., I., T. *p'a-*. P. 97, 98, 99, 100, 101, 104, 107.

-a, a suffix accompanying numerals. See *u*.

an-, unexplained. P. 8.

-e, adjective suffix, the same as I. S., I., T. *-e*, *-i*. Cf. T. *wem tsula wae*, an alive dog, a dog is alive. P. 3, 122, 123, 129, 130.

-e, verbal suffix with the meaning "is," the same as I. S. *-e*, probably the same as the adjective *-e* above. P. 41, 46, 47, 48, 53, 54, 55, 57, 64, 66, 73, 74, 77, 78, 82, 83, 89, 92, 94, 95, 96, 97, 98, 99, 100, 101, 102, 108, 109, 133, 135, 148.

-e, used with possessive pronominal prefixes, probably the same as the preceding, the same as I. S., T. *-e*, I. *-ey*. P. 6, 7, 8, 9, 10, 11, 12, 13, 31.

-e, a part of the stem of the word according to the evidence of the other languages. P. 21, 23, 24, 83, 91 (?), 132.

-e, a suffix accompanying verbs. P. 177.

-ēe, a suffix accompanying verbs. P. 170.

el-em, *el-a-m*, *el-en-*, possessive pronominal prefix of the first person singular. *el-*, unexplained. *-em-*, *-a-m*, *-en-* = I. S., I. *iⁿn-* = T. *aⁿn-*. This prefix is invariably accompanied by the suffix *-e*. P. 6, 7, 8, 9, 10, 11, 12, 13, 31.

-em, unexplained. In the corresponding T. words *-enēmaⁿ* and *-anēmaⁿ* occur. P. 28, 33, 45.

-en, a suffix accompanying verbs. P. 178.

ha-, *hī-*, *hin-*, a suffix accompanying verbs. P. 169, 170, 171, 172, 173, 174.

-he, unexplained, possibly the same as *-e*. P. 25, 30, 86.

hel-, *-hel-* a prefix and infix accompanying verbs. P. 177, 178, 179, 180.

-hem, unexplained. In P. 17, 19, 26, 37, 48 this appears where I. S., I. have *-a-* and in 80 where I. has *-ē*. P. 14, 17, 19, 26, 27, 30, 37, 40, 48, 50, 80, 139.

-hōi, a suffix accompanying verbs. P. 171.

-i, unexplained. P. 85.

-ki-e, unexplained. P. 65, 103, 134.

kie-, a prefix accompanying verbs. P. 176.

-ke, unexplained. P. 85.

-la-, *-le-*, *-lee*, unexplained. P. 62, 63, 64, 65, 141.

-le, *l-e*, *-de*, unexplained. In P. 4, 44 it corresponds to I. S., I. *-de*, in P. 44 also to T. *-le*. P. 4, 44, 71, 87, 93, 147.

l-e, O. *-le*, *-ley*, possibly locative. O. *y apol y ahuley*, in heaven. P. 75 *na-f'ol-ē*, earth. O. *nafoleguey*, on earth.

-lo-ē, *l-u-ē*, unexplained. P. 67, 68.

-m, the same as I. S., I. *-m*, T. *-m-*. P. 3 and 123 (cf. P. 122).

ma-, "very, much," according to Bartlett's note. P. 122, 125, 126, 128, 131, 132, 142.

-me, unexplained. P. 56, 107, 141, 146.

-mo-, infix accompanying verbs. P. 58 (?), 59.

-móo, suffix accompanying verbs. P. 172.

-n, apparently the same as T. *-nd*. P. 102.

na-, meaning he, she, or it, without a following *-e*. P. 61, 126, 132, 137, 138, 180.

-na-, suffix on numerals. See *-u*.

-nao, a suffix accompanying verbs. P. 176.

na-—e, apparently meaning it is. P. 58, 59, 81, 114, 115, 116, 117, 118, 119, 125, 131.

-na-e, most of the corresponding words in T. have the suffix *-nd*. P. 16, 22, 43, 60, 61, 62, 79, 84.

-na-he, probably the same as *-na-e*. P. 106.

-ne, corresponding in almost every case with T. *-nd*. P. 2, 4, 9, 11, 20, 29, 34, 36, 105.

ne-a-e, probably the same as *-na-e*. P. 38.

-nem, corresponding in P. 15 and 18 with T. *-nèma*. P. 15, 18, 35, 90.

-o, suffix on numerals. See *-u*.

-oi, a suffix accompanying verbs, perhaps the same as *-hoi*. P. 174.

-pe, unexplained. P. 63, 144.

-quay, *-que*, a plural sign? P. 120, 138.

-sa-, great. P. 32, 77.

-sa, *-så*, unexplained. P. 136, 137, 173.

-sa-e, *-tsa-é*, unexplained. P. 39, 124.

ta-, a prefix accompanying verbs. P. 168, 175.

-tao, *-tow*, found only in connection with the meaning affection. P. 113, 175.

-te-le, *-ta-le*, tens. This is the same as T. *-tela*. P. 163, 164, 165, 166.

-u, *-uh*, *-o*, *-a*, *-yu*, *-yo*, a suffix accompanying numerals. In the Tiwa language under certain syntactic conditions a vowel of the *a-o-u* series of somewhat obscure quality may be suffixed to the numerals, reminding one of the colloquial German *eina*, *zweia*, *dreia*, etc. We probably have this same suffix before us in the endings of the Piro numerals. *yu* appears, preceded by *i*, in P. 150 *eu-i-yu*, one (T. 150 *wema*), P. 151 *wi-yú*, two (T. 151 *wiina*), P. 157 *hui-li-yú*, eight (T. *hwiliu*, *hwilia*). Assuming that P. *y* in these words represents merely a glide occasioned by preceding *i*- only the P. and T. words for eight exactly correspond, while the T. words for one and two contain infixes which the P. words do not con-

tain. *-yo* occurs in P. 159 *tēn-yo*, ten, P. 162 *tēn-te-yo*, twenty, P. 166 *tēn-yo-tēn-na-ta-leo*, one hundred. Elsewhere the numeral ten is *tēn-*. Nothing corresponding to *-yo* has been found in the other Tanoan languages. The other P. numerals, except P. 158 *hua-weh*, nine, and P. 160 *tēn-u-i*, eleven, suffix, *a*, *o*, *u*, *uh*. In P. 152 *mōn-tu*, three, *u* seems to be a part of the stem. P. 152 *mōn-tu* = I. 152 *patco*. I. S. 152 *patcua*, T. 152 *payua* show the suffix. *-t* of P. 152 is peculiar, the equation being P. *y* = I. S., I. *tc*, 'c = T. *y*. P. 153 *we-no*, four, P. 163 *we-na-te-leo*, forty, show the same suffix as I. S. 153 *wena*, four, T. 153 *wiānu*, four (also heard as *wiāna*). P. 154 *an-tao*, five, shows *o* comparable with *a* of I. S. 54 *p'antua*, five, T. 154 *p'anyua*, five. Here as in P. 152 P. *-t* corresponds to T. *y*, but I. S., I. agree with P., having *t*. P. 155 *ma-seu*, six, P. 156 *tsu-wuh*, seven, P. 163, 164, 165, 166 *-te-leo*, *-ta-leo*, tens, show the same suffix as do the T. forms *maⁿLiu*, *maⁿLia*, six, *tsuu*, *tsua*, seven, *-telau*, *-telaa*, tens. *a-* of P. 164, 165, 166 *tēn-na* is probably the same suffix as seen in T. *tēnu*, *tēna*, ten. There are therefore in the Piro vocabulary examples of the suffixing of a rounded vowel to each of the numerals except the numerals three and eight.

-uh, a suffix accompanying numerals. See *u*.

-we, *-o-e*, unexplained. P. 52, 120, 121, 125, 127, 142.

-yao, *-yau*, a suffix accompanying verbs. P. 168, 180.

-ye, probably the same as *-e*. P. 1, 51, 72, 104, 126, 128, 149.

-yem, comparable with *-em*, *-hem*. P. 43, 88.

-yoi, a suffix accompanying verbs. Cf. *-hoi*, *-oi*. P. 173.

-yo, a suffix accompanying numerals. See *-u*.

-yu, a suffix accompanying numerals. See *-u*.

In writing Piro, Bartlett commits inaccuracies which are common to many other vocabularies of Tanoan languages. The most noticeable are the writing of *s* for *z* and the regular omission of *p'* and *k'*. In the following tabulation the individual phonetic elements occurring in the vocabulary of the language of Isleta del Sur, arranged in alphabetic sequence, are compared with the corresponding sounds of the vocabularies of the other languages. The number of times a spelling is found in Bartlett's vocabulary is indicated in parenthesis.

I. S.	I.	T.	P.
a	a	a, â	a (73), â (1)
ai	ai	ai	ay (1)
a ⁿ	a ⁿ	a ⁿ	an (2) a (1)

I. S.	I.	T.	P.
i, e, è	i, e, è	è, ä, à, ä ⁿ	i (2), e (5), a (2), en (1)
d	d	l	l (11)
e	e, ey	e, è, à	e (80), è (89), è (1)
e	e	ie	a (1)
ea	ea	ea	yo (2)
e ⁿ	e ⁿ	ie ⁿ	an (1)
	ey		i (1)
		h	h (3)
h	h	h	h (1)
hw	hw	hw	hu (2), w (1)
	hw		h (1)
hw ⁿ	hü ⁿ	hwı ⁿ	huaw (1)
i	i	i	i (14), e (3)
iaw	iuw	iuw	iaw (1), yao (1)
ie, iè, e, ee	ie, iè	ie, iä, ia	e (5), è (1)
i ⁿ , i ⁿ	i ⁿ	ä ⁿ , a ⁿ	e (14), i (1), ên (7), en (1)
iu	iu	iu	u (3), iw (1)
k	k	k	ki (5)
kw	kw	kw	ki (2), ku (1)
k ^h	k ^h	x	hi (6), ki (3), — (2), s (1?)
		xw	qu (1)
k'	k'	k'	— (3)
L	L	L	s (15), ts (3)
m	m	m	m (19)
mw	w	w	eu (1), u (1)
mmy	w ⁿ	nwi	wey (1)
n	n	n	n (59), — (1)
ny	ny	ny	y (2), ly (1?)
ny	y ⁿ		min' (1)
o	o	o	o (3), aw (1)
öa, ôa	öa, ôa, üa	öa	ala (1), oulwa (1), ia (1), io (1)
			iu (1), o (3)
p	p	p	p (15), m (2), t (1)
p ^h	p ^h	p ^h	f (4), s (2), p (1), t (1)
p'	p'	p'	— (17), p (1)
s	s	s	s (1), ts (1)
t	t	t	t (1), q (1?)
tc	tc	y	t (1)
t	t	y	t (1)
t ^h	t ^h	t ^h	hr (2), tz (1), s (1)

I. S.	I.	T.	P.
t'	t'	t'	t (2)
'c	'c	ts	ts (8), tz (3), s (2)
tc'	tc'	ts'	ts (2), tz (2), s (1)
u	u	u	u (14), o (8), a (2), oo (1), û (1)
u ⁿ	u ⁿ	u ⁿ , u ⁿ u ⁿ	ou (2), u (1), ôn (1)
uu	uu	uu	eu (2), yu (1)
uy	ui	uy	iy (1)
	uya ⁿ		oe
û, ô	û, ô	û, ö, öya	o (3), awa (1), ay (1), ee (1), e (1)
w	w	w	w (13), u (2), hu (2)
y	y	y	y (4), hi (2), i (1), — (1)

Of the 180 words contained in Bartlett's Piro vocabulary, 158, or 87 percent, have stems so nearly identical with the corresponding stems in the speech of Isleta del Sur, Isleta, and Taos, that the discrepancies may most easily be attributed to Bartlett's inaccurate orthography. Of the stems not explained by the Tiwa, four are elucidated by a comparison with the Jemez and Tewa languages, and six are borrowed from the Spanish. Therefore only twelve stems, or seven percent of the entire number, remain unexplained. The writer is confident that further study of Tiwa will explain these as well as the Piro affixes.

Bartlett's spellings do not enable us to determine with any degree of accuracy whether Piro stood nearer to the Isleta or to the Taos dialect of Tiwa, or whether it was a third Tiwa dialect differing from each of these as much as they differ from each other. Our results favor the latter assumption. In our vocabularies 59 Piro stems bear equal phonetic resemblance to Isleta del Sur, Isleta, and Taos; 29 Piro stems more closely resemble Taos; and 25 stems more closely resemble Isleta del Sur or Isleta.

Thus the very document on which Powell based his classification of Piro as a language distinct from Tiwa, when examined with the aid of comparative Tanoan vocabularies confutes that classification and confirms the evidence furnished by Pimentel and also by my informant, Marcos Pedraza, to the effect that Piro and Tiwa are the same language. Pimentel's grouping "Thaos ó Piro" is doubtless based on *old and trustworthy* information.¹

¹ Pimentel's classification of the unrecorded and extinct language of the Suma as belonging to the same group is perhaps as reliable.

The writer suggests that the term Tiwa language be extended to include Piro, and proposes the following classification of the Tanoan languages. Inasmuch as the form of the numeral six is different in each of the three Tanoan languages as classified below yet does not perceptibly vary with the varying dialects of each of these languages, it may be well to employ that numeral as a classificatory handle, as the variant forms of the word meaning one hundred have been put to use by Brugmann in his grouping of the languages of the Indo-European family.

A. The Tiwa¹ or *Ma'li* language, spoken by the (1) Taos, Picuris; (2) Sandia, Isleta, Isleta del Sur; (3) Piro.

B. The Tôwa² or *Misty* language, spoken by the Jemez and Pecos.

C. The Tewa³ or *Si* language, spoken by the Hano, San Juan, Santa Clara, San Ildefonso, Nambe, Pojoaque, Tesuque, and Tano⁴.

The name Piro is not known to the Tewa and Jemez. The forms found in Spanish documentary sources are Piro, Piros, Pira. Marcos Pedraza of Senecú pronounced the word as in Mexican. Ponciano Luin of Isleta del Sur said that the Isleta del Sur and also the Piro form is *Pidù*. Among the notes of a friend on information obtained by him from the old cacique of Picuris I find the following: "Pecos pueblo, *Huquá*; Pecos people, *Pelónē*. Some of the Pecos people went south to El Paso, Texas."⁵ The suffix *-iné-* is the same as Taos *-ena*. Have we not here a recollection of the name and history of the Piro?

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¹The author suggests that *Tiwa* be used as the name of the language and that the dialects be designated: (1) Taos; (2) Isleta; (3) Piro.

²The Jemez and Pecos speak of their language as *tôwa ts'a'atun*, the home language (*tôwa*, home + *ts'a'*, people + *tu^n*, talk).

³The Tewa call their language *téwa tu^di*, the home language, the native language (*téwa*, home, native + *tu^di*, language).

⁴The Tano, who formerly lived about Rio Santa Fé and Rio Galisteo, spoke the same language as the Tewa.

⁵Used by courtesy of Mr H. J. Spinden.